

What is claimed is:

1 1. In a satellite communication system comprising at
2 least a first satellite arranged to receive first data from
3 a first source and second data from a second source
4 displaced from the first source, to receive control data and
5 to transmit the first data and the second data, apparatus
6 for processing the first and second data comprising in
7 combination:

8 an earth processing center arranged to process the
9 first data and second data;

10 a wide band network arranged to transmit the first and
11 second data to the processing center;

12 a first receptor terminal arranged to receive the first
13 data from the satellite and to place the first data on the
14 network for transmission to the processing center; and

15 a second receptor terminal arranged to receive at least
16 the second data from the satellite and to place at least the
17 second data on the network for transmission to the
18 processing center.

1 2. Apparatus, as claimed in claim 1, wherein the
2 satellite comprises a memory for storing the first and
3 second data.

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1 3. Apparatus, as claimed in claim 1, wherein the
2 first data is received by the satellite at a first time and
3 the second data is received by the satellite at a second
4 time later than the first time.

1 4. Apparatus, as claimed in claim 3, wherein the
2 satellite transmits the first data at a third time occurring
3 after the first time and wherein the satellite transmits the
4 second data at a fourth time occurring after the second
5 time.

1 5. Apparatus, as claimed in claim 1, wherein the
2 satellite transmits the first data to the first receptor
3 terminal in the event the first receptor terminal is
4 prepared to receive the first data and wherein the satellite
5 transmits the second data to the second receptor terminal in
6 the event the second receptor terminal is prepared to
7 receive the second data.

1 6. Apparatus, as claimed in claim 1, wherein the
2 satellite transmits the first data and second data to the
3 second receptor in the event the first receptor terminal is
4 unprepared to receive the first data and the second receptor
5 terminal is prepared to receive the first data and second
6 data.

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1 7. Apparatus, as claimed in claim 1, wherein the
2 second receptor terminal is arranged to receive the first
3 data and to place the first data on the network for
4 transmission to the processing center in the event the first
5 data is not received by the first receptor terminal.

1 8. Apparatus, as claimed in claim 1, wherein the
2 satellite comprises a sensor arranged to receive the first
3 data and second data.

1 9. Apparatus, as claimed in claim 1, wherein the
2 system comprises a satellite operation center connected to
3 the first receptor terminal and second receptor terminal by
4 the network, the satellite being arranged to transmit the
5 control data to the satellite.

1 10. Apparatus, as claimed in claim 9, wherein the
2 operation center is arranged to signal the satellite to
3 transmit the first data to the first receptor terminal in
4 the event that the processing center detects a deficiency in
5 the first data.

1 11. Apparatus, as claimed in claim 9, wherein the
2 operation center is arranged to signal the satellite to
3 transmit the first data to the second receptor terminal in
4 the event that the processing center detects a deficiency in

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5 the first data and the satellite is out of range of the
6 first receptor terminal.

1 12. Apparatus, as claimed in claim 1, wherein the
2 system comprises a second satellite arranged to receive
3 third data from a third source and fourth data from a fourth
4 source displaced from the third source, to receive control
5 data and to transmit the third data and the fourth data,
6 wherein the system comprises at least a third receptor
7 terminal arranged to receive the third and fourth data and
8 to place the third and fourth data on the network for
9 transmission to the processing center and wherein the
10 processing center comprises a first computer arranged to
11 process the first and second data and a second computer
12 arranged to process the third and fourth data.

1 13. Apparatus, as claimed in claim 1, wherein the
2 network comprises an optical network.

1 ~~14.~~ In a satellite communication system comprising at
2 least a first satellite arranged to receive first data from
3 a first source and second data from a second source
4 displaced from the first source, to receive control data and
5 to transmit the first data and the second data to the earth,
6 a method of processing the first and second data comprising
7 in combination:

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10     transmitting the first data adjacent the earth for
11     processing;

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12         receiving at least the second data at the earth from
13         the satellite;

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14 transmitting at least the second data adjacent the
15 earth for processing; and

16 processing the first data and second data adjacent the
17 earth.

1 15. A method, as claimed in claim 14, and further
2 comprising storing the first and second data on the
3 satellite.

1 16. A method, as claimed in claim 14, and further
2 comprising receiving the first data at the satellite at a
3 first time and receiving the second data at the satellite at
4 a second time later than the first time.

1 17. A method, as claimed in claim 16, and further
2 comprising transmitting the first data from the satellite at
3 a third time occurring after the first time and transmitting
4 the second data from the satellite at a fourth time
5 occurring after the second time.

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1 18. A method, as claimed in claim 14, and further
2 comprising transmitting the first data from the satellite to
3 a first location on the earth in the event the first
4 location is prepared to receive the first data and
5 transmitting the second data from the satellite to a second
6 location on the earth in the event the second location is
7 prepared to receive the second data.

1 19. A method, as claimed in claim 14, and further
2 comprising transmitting the first data and second data to a
3 second location on the earth in the event that a first
4 location on the earth is unprepared to receive the first
5 data and the second location is prepared to receive the
6 first data and second data.

1 20. A method, as claimed in claim 14, and further
2 comprising signaling the satellite to transmit the first
3 data to a first location on the earth in the event that the
4 processing detects a deficiency in the first data.

1 21. A method, as claimed in claim 20, and further
2 comprising signaling the satellite to transmit the first
3 data to a second location on the earth in the event that the
4 processing detects a deficiency in the first data and the
5 satellite is out of range of the first location.

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1 24. A method, as claimed in claim 14, wherein the
2 transmitting comprises optical transmitting.